**METROPOLITAN GOVERNMENT of NASHVILLE and DAVIDSON COUNTY TENNESSEE**
**Metropolitan Health Department**
**Pollution Control Division**
**311 - 23rd Avenue North**
**Nashville, Tennessee 37203**
**Telephone: (615) 340-5653 FAX: (615) 340-2142**

# STORAGE TANK PERMIT APPLICATION

1. Facility Name: _____ Phone No. ( ) _____
   Physical Location: _____

2. Responsible Official: _____ Title: _____
   Mailing Address: _____ Phone No. ( ) _____

3. Contact Person: _____ Title: _____ Phone No. ( ) _____

4. Indicate the purpose of this application Construction Permit: Operating Permit: Revised Operating Permit:

| 5. Tank No. | 6. Storage tank capacity: Gal. | 6. Year of installation: | 7. Tank Height: (Ft) | 8. Tank Diameter: (Ft) |
|---|---|---|---|---|
| _____ | _____ | _____ | _____ | _____ |

9. Tank Color: _____ ; Paint Condition: _____ Good _____ Poor
   Roof Color: _____ ; Paint Condition: _____ Good _____ Poor

10. Is this tank equipped with submerged fill pipe? _____ Yes _____ No

11. Is this tank equipped with pressure/vacuum conservation vent? _____ Yes _____ No

12. Type of storage tank (check one): _____ Fixed Roof; _____ External Floating Roof;
    _____ Internal Floating Roof; Other (specify): _____

13. For fixed roof tanks:
    **A.** Tank configuration (check one): _____ Vertical (upright cylinder); _____ Horizontal;
    **B.** Tank roof type (check one): _____ Flat;
    _____ Cone roof, indicate tank roof height: _____ (Ft); or
    _____ Dome roof, indicate tank roof height: _____ (Ft); and
    indicate shell radius: _____ (Ft).
    **C.** Maximum liquid height: _____ (Ft) **D.** Average liquid height: _____ (Ft).

14. For floating roof tanks (both internal and external) - Shell condition (check one):
    _____ Light rust; _____ Dense rust; _____ Gunite lined

15. For external floating roof tanks:
    **A.** Tank construction (check one): _____ Welded tank; _____ Riveted tank
    **B.** Rim seal system description:
    Primary (check one): _____ Vapor -mounted; _____ Liquid-mounted; _____ Mechanical shoe
    Secondary (check one): _____ Weather shield; _____ Rim-mounted; _____ None
    **C.** Roof type (check one): _____ Pontoon roof; _____ Double deck roof

15. **Continued**

**D.** Roof fitting types (indicate the number of each type):

| Access Hatch (24" Dia. Well) | Unslotted Guide-Pole Well (8" Diameter Unslotted Pole, 12" Dia. Well) | Gauge-Float Well (20" Dia.) |
|---|---|---|
| _____ Bolted cover, gasketed | _____ Ungasketed sliding cover | _____ Unbolted cover, ungasketed |
| _____ Unbolted cover, gasketed | _____ Gasketed sliding cover | _____ Unbolted cover, gasketed |
| _____ Unbolted cover, ungasketed | | _____ Bolted cover, gasketed |

| Roof Drain | Roof leg (3" Diameter) | Roof Leg (2-1/2" Diameter) |
|---|---|---|
| _____ Open | _____ Adjustable, Pontoon Area | _____ Adjustable, Pontoon Area |
| _____ 90% Closed | _____ Adjustable, Center Area | _____ Adjustable, Center Area |
| | _____ Adjustable, Double-Deck Roofs | _____ Adjustable, Double-Deck Roofs |
| | _____ Fixed | _____ Fixed |

16. For internal floating roof tanks:

**A.** Rim seal system description: Primary (check one): _____ Liquid-mounted; _____ Vapor-mounted
Secondary (check one): _____ Yes _____ No

**B.** Number of columns: _____

**C.** Effective column diameter: _____ (Ft.)

**D.** Deck type (check one): _____ Welded; _____ Bolted

**E.** If bolted, indicate the total deck seam length: _____ (Ft.)

**F.** Deck area _____ (Square Feet)

**G.** Deck fitting types (indicate the number of each type):

| Access Hatch (24" Diameter Well) | Automatic Gauge Float Well | Ladder Well |
|---|---|---|
| _____ Bolted cover, gasketed | _____ Bolted cover, gasketed | _____ Sliding cover, gasketed |
| _____ Unbolted cover, gasketed | _____ Unbolted cover, gasketed | _____ Sliding cover, ungasketed |
| _____ Unbolted cover, ungasketed | _____ Unbolted cover, ungasketed | |

| Column Well | Sample Pipe Or Well |
|---|---|
| _____ Built-up column-sliding cover, gasketed | _____ Slotted pipe-sliding cover, gasketed |
| _____ Built-up column-sliding cover, ungasketed | _____ Slotted pipe-sliding cover, ungasketed |
| _____ Pipe column-flexible fabric sleeve seal | _____ Sample well-slit fabric seal, 10% open area |
| _____ Pipe column-sliding cover, gasketed | _____ Stub drain, 1 inch diameter |
| _____ Pipe column-sliding cover, ungasketed | |

| Roof Leg or Hanger Well | Vacuum Breaker |
|---|---|
| _____ Adjustable _____ Fixed | _____ Weighted mechanical actuation, gasketed |
| | _____ Weighted mechanical actuation, ungasketed |

17. For variable vapor space tanks: Volume expansion capacity: _____ (gallons)

18. Complete the following table for products to be stored in this tank:

**Part (1)**

| Product Stored | Storage Dates | Annual Thruput (Gal/Yr) | Liquid Molecular Weight (Lb/Lb Mole) | Vapor Molecular Weight (Lb/Lb Mole) |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |

**Part (2)**

| Product Stored | Vapor Pressure (PSIA) | Minimum Vapor Pressure (PSIA) | Maximum Vapor Pressure (PSIA) | Liquid Density (Lb/Gal) | Average Storage Temperature ($^{o}$ F) |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

19. List hazardous air pollutant constituents below (attach sheet if additional space needed):

| Chemical Name | CAS Number | Percent of Total | | Chemical Name | CAS Number | Percent of Total | |
|---|---|---|---|---|---|---|---|
| | | Liquid Wt. (%) | Vapor Wt. (%) | | | Liquid Wt. (%) | Vapor Wt. (%) |
| 1. | | | | 5. | | | |
| 2. | | | | 6. | | | |
| 3. | | | | 7. | | | |
| 4. | | | | 8. | | | |

20. Air pollution control equipment:

| Type of Air Pollutant Controlled | Year Installed | Type of Equipment | Capture Efficiency (%) | Control Efficiency (%) | Overall Capture and Control Efficiency (%) |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

21. Is an emission monitoring and recording instrument attached to this emission point? Yes _____ No _____

If yes, describe: _____

22. Regulated and hazardous air pollutant emission data for this emission point:

| Type of Pollutant Emitted | Check One Yes | Check One No | Air Pollutant Concentration | Potential Mass Emission Rates | Method of Estimating Emissions* |
|---|---|---|---|---|---|
| Volatile Organic Compounds | | | | | |
| Other: | | | | | |

*Attach a copy of the test results, process material balance study, or other basis used to estimate the potential emission rate of each air pollutant.

23. I hereby certify that to the best of my knowledge the information contained in this application is true, accurate and complete.

_____ Type or Print Name of Responsible Official

_____ Title

_____ Signature of Responsible Official

_____ Date

**INSTRUCTIONS FOR COMPLETING A**
**STORAGE TANK PERMIT APPLICATION**

**Complete one form for each storage tank for which an air pollution control permit is required. (Except for Gasoline Dispensing Facilities).**

**Item 1:** Provide the facility name, phone number and physical location and attach a sketch or drawing of this facility showing the location of the tank described in this application.

**Item 2:** Provide the responsible official's name, title, phone number and mailing address. Assign an identification number to this storage tank (e.g., T1, T2, etc.).

**Item 3:** Provide the contact persons name and title if different form the responsible official's.

**Item 4:** Indicate the purpose of this application by checking the appropriate space.

**Item 7:** If the tank roof is sloped, provide the average tank height.

**Item 10:** A submerged fill pipe is any fill pipe with a discharge opening which is entirely submerged when the liquid level is six inches above the tank bottom.

**Item 13:** Check the tank roof type which applies and supply the required information. the following equation can be used to calculate the tank roof height of a cone roof tank:

$H = S \times R$
Where H is the tank roof height, Ft.
S is the tank cone roof slope, if unknown a standard value of 0.0625 Ft/Ft can be used, Ft/Ft.
R is the tank shell radius, Ft.

The following equation can be used to calculate the tank roof height of a dome roof tank:
$H = RR - (RR^2 - RS^2)^{0.5}$
Where H is the tank roof height, Ft.
RR is the tank dome roof radius, Ft.
RS is the tank shell radius, Ft.

**Item 14:** Check the shell condition which best applies if the storage tank is a floating roof type (either internal or external).

**Item 15B:** Check the appropriate rim seal type if the storage tank is an external floating roof type.

**Item 15C:** Check the appropriate roof type if the storage tank is an external floating roof type.

**Item 15D:** Indicate the total number of each appropriate roof fitting type in the space provided if the storage tank is an external floating roof tank.

**Item 16A:** Check the appropriate rim seal type if the storage tank is an internal floating roof type.

**Item 16B:** Indicate the number of fixed roof support columns if the tank is an internal floating roof type. Indicate zero support columns if the fixed roof is self supported.

**Item 16C:** Indicate the effective column diameter (Ft) if the storage tank is an internal floating roof type. Use the column perimeter (Ft)/3.14 or 1.1 Ft for a 9-inch by 7-inch built-up column, 0.7 Ft for 8-inch diameter pipe columns, and 1.0 if column construction details are not known.

**Item 16D:** Check the appropriate deck type if the storage tank is an internal floating roof type.

**Item 16E:** Indicate the total deck seam length if the storage tank is an internal floating roof type with a bolted deck**.**

**Item 16F:** Indicate the deck area if the storage tank is the internal floating roof type.

**Item 16G:** Indicate the total number of each appropriate deck fitting type in the space provided if the storage tank is an internal floating roof type.

**Item 17:** Indicate the volume expansion capacity of the variable vapor space achieved by roof lifting or diaphragm flexing if the tank is a variable vapor space type.

**Item 18:** If the tank is used for more than one product, clearly specify each separate product. Vapor pressures should be given as true vapor pressures at the reported tank conditions. The months of storage for each product must be indicated in the "Storage Dates" column. Attach additional sheet outlining any alternative operating scenarios, or to define permit terms and conditions allowing emissions trading under a federally enforceable emissions cap to be established in the permit.

**Item 19:** For each hazardous air pollutant constituent indicate the CAS Number and the percent of total liquid weight. Do not list the percent emitted.

**Item 20:** Describe any air pollution control equipment to be used to control this tank.

**Item 22:** Identify each regulated hazardous air pollutant emitted by this tank, report the mass emission rate of each pollutant, and indicate the method of estimating the emission rate, i.e., test data, emission factors, etc. Concentrations need not be reported unless needed to demonstrate compliance with an applicable requirement.

**Item 23:** The responsible official must sign and date this form to certify that the information presented in the application is true, accurate and complete to the best of his knowledge.